Presentation to the

Quincy rotary club

by

Colonel duane gapinski, p.e.

Commander, rock island district

April 19, 2005

US Army Corps of Engineers®

U.S. Army Corps of Engineers

The Corps' mission:

- Water Resources Development
- Environment
- Infrastructure
- Disasters
- Warfighting

OUR MISSION
PEACE
WAR
SPECTRUM OF USACE OPERATIONS
Water Resources
Environment
Infra-structure
Disasters
Warfighting
Creating synergy between water resource development and environment
Restoring, managing and enhancing ecosystems, local and regional
Building and sustaining the critical facilities for military installations and the public
Responding to local, national and global disasters
Providing full spectrum engineering and contingency support

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Dual Roles

Chief of Engineers, Army Staff

★★★

Commander, U.S. Army Corps of Engineers

One Corps Serving the Armed Forces and the Nation

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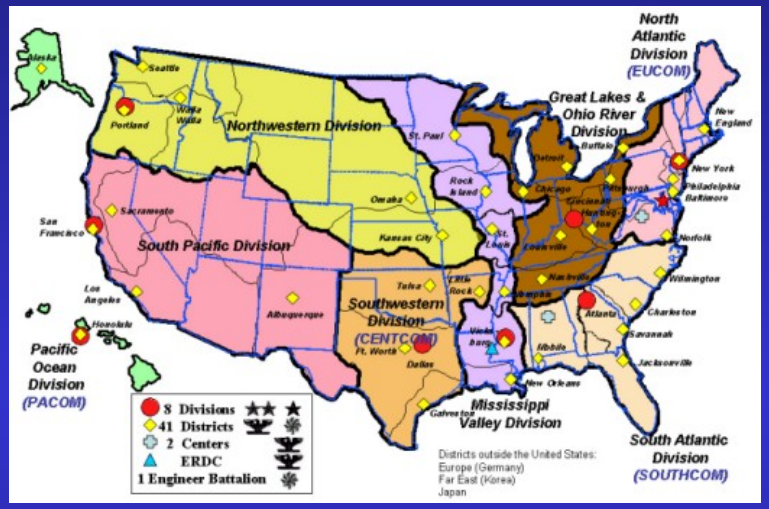
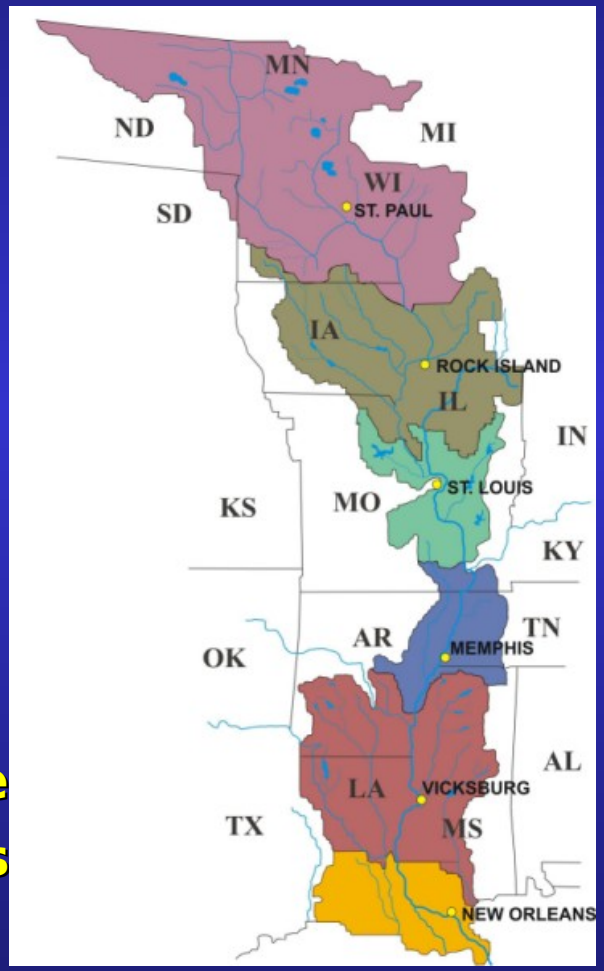
Mississippi Valley Division





- **Six Districts**
- **5,000+ Employees**
- **370,000 Square Mile Boundary, Encompassing All Or Parts Of 12 State**
- **4,267 Miles Of Commercial Waterways**
- **44 Flood Control Lakes/Reservoirs**

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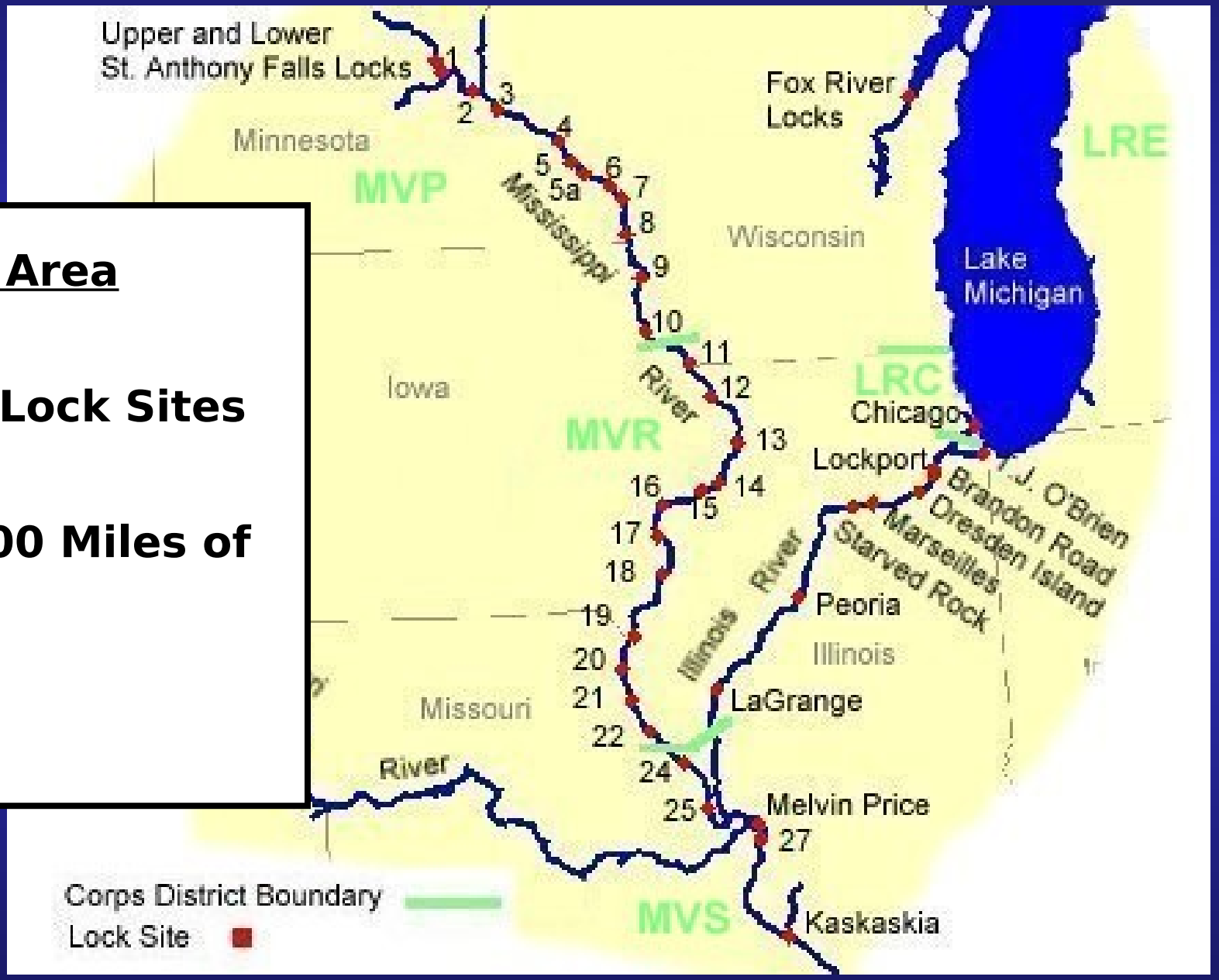
Rock Island District

- Primarily A Civil Works District
- 78,000 Square Miles
- Portions Of 5 States
- Operate 582 Miles Of 9-foot Navigation Channel
- 20 Locks And Dams
- 2nd Longest Navigation Channel Of Any Corps District
- 2nd Largest Number Of Locks Of Any Corps District

Navigation Study

Study Area

- **37 Lock Sites**
- **1,200 Miles of River**



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Scope Of Study

Focus On Authorized Federal Navigation Projects & The Ecological & Floodplain Resources That Are Affected By These Projects.

Original Study
(1993-2000)

→ **Relieve Congestion.**

Restructured Study
(2001-2004)

→ **Relieve Congestion.**

→ **Achieve Environmental Sustainable System.**

→ **Address Ecosystem, Floodplain Mgmt Needs Related To Navigation.**

Study Vision

"To seek long-term sustainability of the economic uses and ecological integrity of the Upper Mississippi River System"

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Upper Mississippi River-Illinois Waterway System Navigation Study aka Navigation & Environmental Sustainability Program

- Chief's Report Signed (Dec. 2004), Forwarding Final Report Documentation & Draft Record of Decision to ASA(CW)
- Public Meetings in May 2005 at Locks 22 & 25 to Present Initial Designs, Plans & Specifications for the New 1,200' Locks & Potential Fish Passage Structures
- Scheduled Completion Date: FY2020 (Contingent on Authorization)
- Estimated Construction Start Date: FY2006 (Contingent on Authorization)

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Navigation Implementation

$2.03 Billion in First 15 Years (CG/IWTF)

- Mooring Facilities @ Locks 12, 14, 18, 20, 22, 24 & LaGrange*
- Switchboats @ Locks 20-25*
- Adaptive Implementation of 1200’ Chambers at Locks 20-25 (22*, 25*), La Grange* & Peoria
- Mitigation for Site Specific & System Effects
- Continued Study & Monitoring

* FY05 New Starts

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Ecosystem Restoration Implementation

$1.58 Billion In First 15 Years

- Fish Passage @ Dams 4, 8, 22* & 26*
- Changes In Water Level Control @ Dams 25 And 16 (25*)
- Adaptive Implementation of 225 Small Projects Of Less Than $25 Million Each
  - Island Building*
  - Water Level Management*
  - Backwater/Side Channel Restoration*
  - Wing Dam/Dike Alterations*
  - Island Shoreline Protection*
- 35,000 Acres of Floodplain Restoration
- Continued Study & Monitoring

* FY05 New Starts

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FY05 Implementation Plan

- FY05 Work Allowance $11.3 M (Congressional Add)
- DRAFT FY05 Workplan 32 New Projects
- Programmatic Projects (5) $1.9M
- Navigation Efficiency Projects (8) $4.8M
- Ecosystem Restoration Projects (19) $4.6M
- Primary Activities Focused on:
  - Decision Documents (Planning)
  - Engineering And Design
  - Collection Of Pre-project Monitoring Data
  - Site Specific Evaluations

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Upper Mississippi River Comprehensive Plan (UMRCP)

- Goal & Objectives
- Summary
- Alternative Plans
- Current Status

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Upper Mississippi River Comprehensive Plan (UMRCP)

Goal -- Develop A Systemic Flood Damage Reduction Plan That

- **Addresses Flood Damage Reduction Needs**
- **Supports Economic & Environmental Sustainability Goals**

Objectives

- **Minimize Threat To Health & Safety**
- **Reduce Flood Damages & Costs**
- **Identify Opportunities To Support Environmental Goals**
- **Seek Opportunities To Address Other Floodplain Problems, Needs, & Opportunities**
- **Identify & Recommend Appropriate Follow-on Studies**

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Systemic Alternative Plans - Types

- **Structural – Raise Existing Levees**
- **Floodplain Management**
  - **Buyout Structures In 100-yr Floodplain**
  - **Change Floodplain Policy – No New Development, Evacuate Existing Development In 500-yr Floodplain**
- **Critical Infrastructure**
  - **Identify & Protect Areas With Critical Infrastructure**
  - **Protect Critical Bridge Approaches**
- **Reconstruction**
  - **Rebuild Existing Facilities, I.E. Pump Stations, Drain, Etc.**

Systemic Alternative Plans – Structural Emphasis

- **Plan A - 0.2% (500-year) Confined Plan -- Unrealistic-induced rise can be over 10 feet**
- **Plan B - 500-year Urban/Agriculture/Unprotected**
- **Plan C - 500-year Urban & 200-year Agricultural**
- **Plan D - 500-year Urban & About 100-year Agricultural**
- **Plan E - 500-year Urban & 50-year Agricultural**

Plan A Results

MISSISSIPPI RIVER		
Levee District/Town	River Mile	Raise in Feet
Fabius	327.8	5.0
City of Hannibal	309.5	3.7
Sny Island Reach I	307.6	7.1
Elsberry	255.9	9.6
City of St. Louis	181.7	1.6
Prairie Du Rocher & Modoc	124.5	10.4
Bois Brule	103.2	14.0
City of Cape Girardeau	52.2	5.5

All plans after Plan A are developed to NOT have significant impacts

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Alternative Plan B 0.2% (500-year) Unconfined

- **0.2% (500-year) Unconfined -- Raise Level Of Protection, IF POSSIBLE, To Protect Against 0.2% (500-year) Flood Event With "*No Significant Impact On Others.*"**

- **Plan B Includes Raising Levees/Floodwalls**
  - **For Urban**
  - **For Agricultural**
  - **And Protect Unprotected Towns**

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Plan C Example

Legend

- Exists at or above 500-yr + freeboard
- Raise to 500-yr + freeboard
- Remains as existing below plan level
- New levee district

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Current Status

- **Work Completed**
  - Collaboration Team Meetings
  - H&H Modeling Available
  - Flood Damage Reduction Alternatives Developed For Plans:
    - A - 500-year Urban/Agriculture/Unprotected CONFINED
    - B - 500-year Urban/Agriculture/Unprotected
    - C - 500-year Urban & 200-year Agriculture
    - D - 500-year Urban & About 100-year Agriculture
    - E - 500-year Urban & 50-year Agricultural

- **Work In Progress**
  - Non-structural Alternatives
  - Critical Infrastructure
  - Environmental Impacts/Opportunities

- **Goal -- Draft Report End Of This Fiscal Year**
- **Website -- http://www2.mvr.usace.army.mil/UMRCP/**

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